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ELECTRICITY on the FARM

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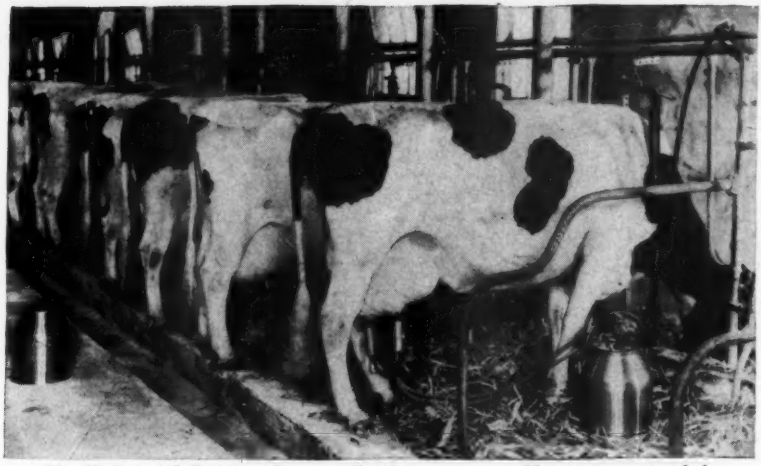

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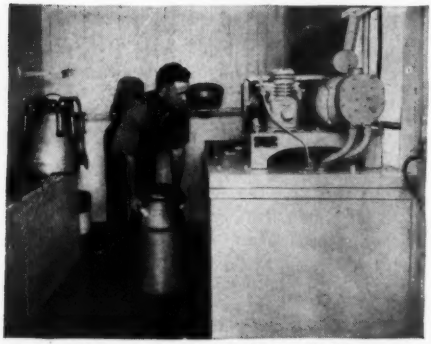

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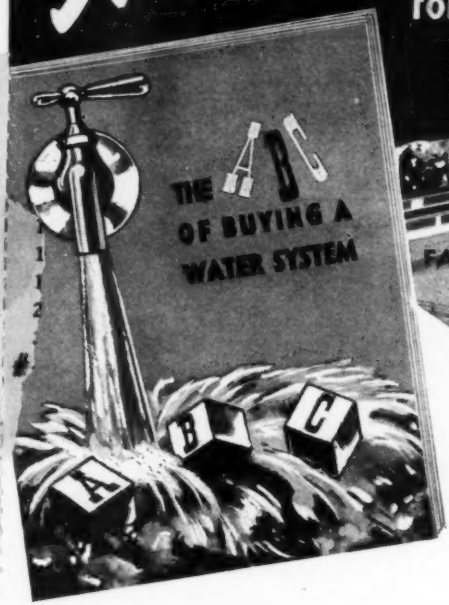

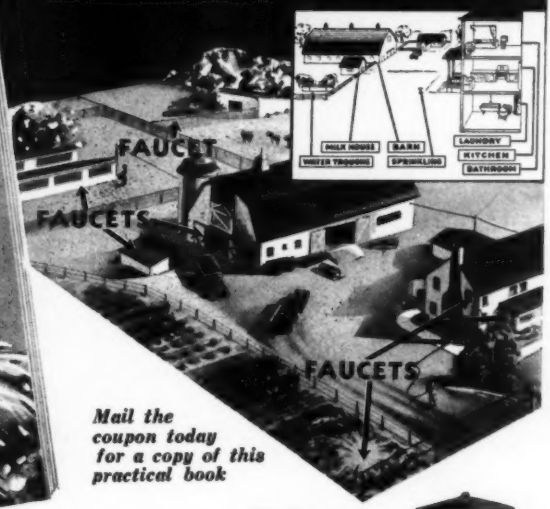

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Editor's Chat

OUR POLICY

This is January. We reaffirm the policy of ELECTRICITY ON THE FARM to be that of helping farm people to make more profitable use of electricity—profitable from the standpoint of dollars, and from the equally important standpoints of health and happiness. Our pages are no "testimony meeting" of those who go next day and sin again. We try to have our articles tell the "why" and "how" of well doing. We are not perfect; but we believe in our purpose. And we want you to know that we believe in the helping-hand rather than the wagging-tongue type of Christianity.

ATTRITION LANE

They say New York is a hustling, busy place. It would be if there were not so many people to get in each other's way. When I am headed toward the country in the evening, it seems that everyone is moving slowly. At five o'clock in the afternoon when the streets are crowded, it is disconcerting to find how many jabbering humans of broad expanse walk three abreast leisurely or laboriously down the eight lane sidewalk. From long experience, I have learned to get in the inside lane—attrition lane—and scrape along on the edge of the equally large, opposite moving "million per mile." The buttons may be ground off my coat sleeves but occasionally when a broad squatty New Yorker waddles by, the void left permits one to take three quick steps before the crowd closes in. One is bumped and jolted between Italy, Moravia and South Africa—it's a cosmopolitan city. But if you're heading out of the city for home, New Yorkers seem to move slowly. For fastest travel—attrition lane.

BOYS—WORKING FOR MONEY

A couple of months ago I bought some stone and gravel to make a stone wall and a concrete foundation. Kelvin, my son, and I were doing the work ourselves, which prompted the truck driver to remark, "My boy will not work for me. He wants to be paid before he works." I did not ask whether he had ever gyped the boy out of his pay, but it does bring up an important point about working for money.

Why does an employer pay a worker? Generally speaking, there's just one reason. That worker under the direction of his employer can produce results which will pay his own wages and make something extra for the employer. Both the worker and the employer benefit. When this ceases to be true, then there is no job. On the other hand, the worker who can earn most for his employer will be paid most—and this applies to shoveling dirt in the street or "shoveling" gold in a bank. This axiom of labor and return has been upset somewhat in our topsy-turvy world, by Government employment, by labor union demands and by greedy employers.

In spite of the exceptions, the rule still holds—and especially for the boy who is just starting to work.

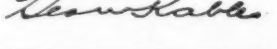
It is perfectly legitimate for you to daydream about the amount you are going to earn, and to try to find the job where you can earn most. That job should be the one in which your particular ability—strong arms, skill with tools or knowledge of bugs or tractors—will earn the greatest return for an available employer. In your day-dreaming you should also ask yourself frequently, "what would I do if I were the employer and he my worker?"

That 35c per hour you get for mixing your first concrete may be the smallest part of your pay. If you are alert, learn how to mix good concrete and do it well, you may be a foreman next year or in business for yourself—the employer.

All hooey? Sometimes it looks that way, I'll admit. But if you do not permit the crooks, the laggards, the Scrooges, who are the exceptions, to blot out the great mass of regular folks, you will find that the person who has the most originality and energy in making money and prestige for the other fellow is making the most for himself. From the lowliest shovel wielder to the wealthiest corporation owner, successful people are working to please someone else.

THIS YEAR

This may be the most critical year in our lives and for our Nation. With chins up, smiles showing, eyes toward the light and hearts right, who or what can conquer us? Ours is a great, free, beautiful country to *live* for.



January, 1941 **ELECTRICITY ON THE FARM** **Vol. 14, No. 1**

The National Magazine of Rural Electrification

CASE-SHEPPERD-MANN PUBLISHING CORP.

Editorial-Executive Offices: 24 West 40th Street, New York, U.S.A.

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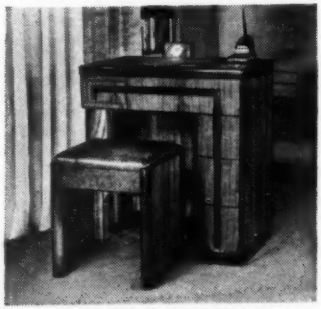

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BETTER BROODING WITH ELECTRICITY

By C. B. CHUBB
Vocational Agriculture Instructor, South Huntington High School, Ruffsdale, Pa.

ASIDE from good feed and good stock, there are three very essential items to be considered for successful brooding, regardless of the system used. They are proper ventilation, even temperature and adequate humidity. Results from actual experience show that electric brooders give these three essentials.

1. Ventilation — All poultrymen agree that adequate ventilation is necessary in every brooder house. Not only does adequate ventilation bring fresh air into the brooder house, but also excessively moist air and gaseous impurities are expelled. If ventilation is inadequate, chicks will lack vigor and result in unprofitable layers.

Electric brooders, when properly constructed and managed, will provide ideal brooder ventilation. In the first place, good house ventilation is insured because the heat of the electric brooder is confined under the well-insulated hover, allowing ample fresh air to move freely throughout the rest of the brooder house. This permits brooder houses to be opened and not tightly closed as is essential in operating fuel brooders. In addition to this, many of the electric brooder manufacturers today have equipped their brooders with fans which expel the air from the hover, replacing it with pure fresh air. It should not be overlooked that fresh air at all times will make chicks more resistant to diseases; consequently, decreasing mortality.

2. Even Temperature—It is not a question of how many birds are kept alive during the span of brooding, but, rather, in what condition those birds are when placed in the laying house. Some chicks may live, not because of the treatment they have received, but in spite of such treatment. Pullets from such chicks will begin laying, but will fail to maintain production during the winter. One of the chief causes for poor pullets is improper brooder temperature.

Every poultryman is aware of the consequences of over-heating chicks at one time and chilling them at another. Chilling and overheating seldom happens with electric brooding. It has been our experience that an even temperature under the hover can be maintained at all times. Outside temperature or air currents have but little influence on the hover temperature; consequently, chicks have the proper temperature for maximum comfort at all times. In our experience with electric brooding, overheating has never occurred and crowding is seldom experienced.

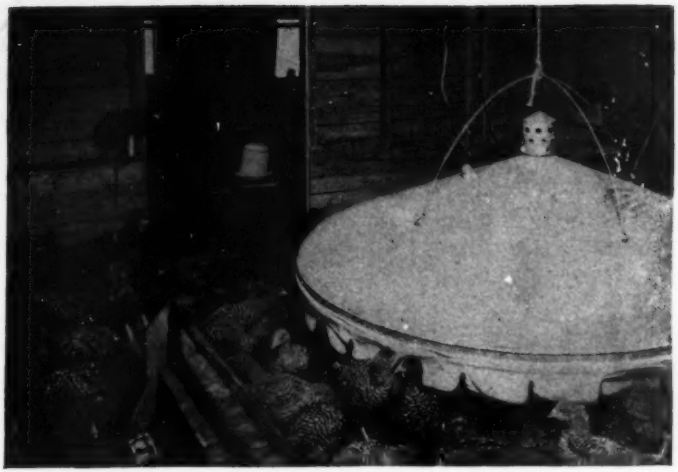
3. Proper Relative Humidity—Past experience has proved that cool room brooding bears a definite relationship to feather growth. If the air is dehydrated by high brooder house temperature, feathering may be retarded. Electric brooders do not heat the entire brooder house; therefore, the environment in which the chicks live has a relative humidity closely approximating that of the outside air. Due to this fact, wing-feather growth is well advanced by the end of the first week.

Having shown how electric brooding fulfills certain essential requirements for chick life, it may be of interest to mention other merits of this system and objections to it.

Labor Saver—The operation of fuel brooders usually necessitates frequent trips to the brooder house to check the temperature and to replenish the fuel supply. Particularly, on cold windy nights such activities constitute a great deal of the labor. Electric brooding eliminates such work, for the heat is constantly supplied, and the temperature is maintained by an accurate electric thermostat which does not permit it to vary more than two to three degrees at any time.

Elimination of Fire Hazards—Each year scores of brooder houses

are consumed by fire. Fuel heated brooders have been responsible for the majority of these mishaps. To our knowledge, in our district, there has never been a fire caused directly by an approved electric brooder. Many electric brooders on the market today are heated by low temperature coils, the temperature of which does not go above that slightly uncomfortable to the touch. The desired brooder temperature is obtained by having a sufficient length of these low heat coils installed in the hover. These coils will not cause a fire, even though they come in contact with the litter.



Power Interruptions — With all of the merits of electric brooding, there have been objections voiced by those unfamiliar with this type of brooding. The first of these objections is, power interruptions may occur during the brooding period. Power Interruptions are less serious in electric brooding than fuel failures in fuel brooders, and not nearly as frequent. Power interruptions do not create a chilled condition because the body heat of the chick is retained under a well insulated hover. Furthermore, the chicks have not been subject to the "hot-house" condition prevalent in fuel heated houses and therefore, are more resistant to chilling. Power companies are very considerate of consumers, and if informed, will notify such consumers well in advance of any contemplated interruption. Then, the problem is solved very easily by lowering the hover and placing jugs or jars of hot water under it to supply the needed heat.

It is realized that power interruptions sometimes occur over which the power company has no control. This, of course, is more serious. However, an inexpensive "power off" alarm will warn the poultryman of such an interruption. This "power off" alarm may be placed at any point where some member of the family will hear it. Again the solution is very simple, lower the hover to conserve the natural body heat of the chicks, and add heat by hot water containers.

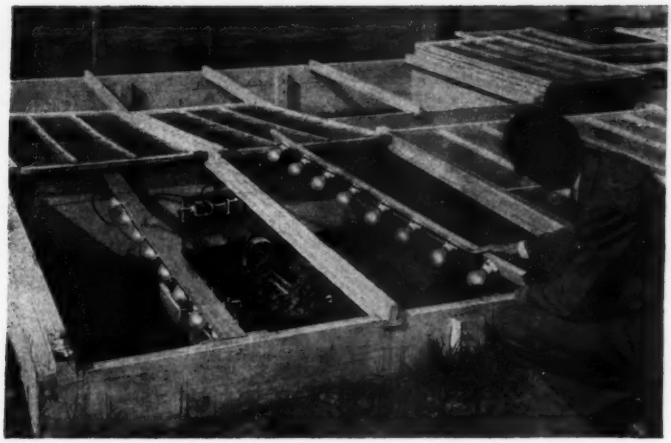
It may be interesting to relate an incident which happened to one of the vocational boys in his poultry project with an electric brooder last year. High winds broke the power line at the transformer, causing the power to shut off. The "power off" alarm rang immediately. The hover was lowered, but no hot water containers placed under it. When power contact was re-established three hours later, the temperature of the hover was three degrees above normal, even though the outside temperature was only a few degrees above freezing. The hover conserved the body heat of the chicks and the 500 two-week-old leghorns suffered no ill effects from the incident.

Operating Cost—The second objection sometimes voiced is that electric brooders are expensive to operate. Tests run by 19 different states in the union, on a well known electric brooder, found that from 26,825 chicks brooded, the average kilowatt-hour consumption per chick for the entire brooding period was one-half kilowatt-hour, while the brooding cost per chick averaged 1.4c. On a test run in our section of Pennsylvania, we found the average to be less than 2c per chick. In one case last year with a 300 chick fan ventilated brooder constructed in the school shop, the power cost per chick was .84c for the brooding period.

During a similar period a shop constructed fanless brooder was also placed under test. This brooder was insulated on the top with two inches of rock wool placed between two pieces of ¼" ply wood. During a brooding period of 36 days the brooder consumed 66 kw-hr. The average maximum and minimum temperatures inside the brooder house were 64° and 41°. Three hundred New Hampshire reds were brooded at a total cost of $1.98 for the entire brooding season, or a cost of .63c per chick.

The main factor determining power consumption is hover insulation and adequate heating capacity. In all of these tests mentioned, good insulation and ample heat capacity was used in the brooders. A comparison of these figures with the operation cost of fuel type brooders will show that in most cases electric brooding is the cheaper.

The last objection to electric brooding encountered is that the original cost of the brooder is high. The well constructed electric brooder may run slightly more than the fuel type, due to the quality of the materials and the electrical accessory equipment. However, one must not forget that the upkeep on an electrical brooder is negligible. In most instances, the first cost is the only cost.



Removable heater strip and method of placing it. The eight porcelain sockets for surface mounting are attached to a 1" x 4" strip 6 ft. long. The lamps are ordinary 25 watt, inside frosted Mazdas known as Mazda B lamps. The beds have high sides to keep the lamps about 19 inches from the plants.

25 WATT LAMPS FOR HOTBED HEATERS

Conclusions from Three Years' Studies of Hotbeds Heated by Lamps, Soil Heating Cable and Manure and Covered with Glass Sash and Cellulose-Acetate Film

By DR. A. M. PORTER and M. L. ODLAND
University of Connecticut

WITH increasing use of hotbeds, and requests for information on their construction and operation, a three-year project was conducted at the Connecticut Experiment Farm to study economies of heating methods, and glass substitutes for sash to minimize heat losses.

Management

These experiments were conducted during the fall, winter and spring seasons of 1938 and 1939 and the winter and spring of 1940.

In our studies we not only observed growth of the plants during the heating period in the bed but also comparative growth in the field after the plants had been set out. Uniform construction was used for all the beds, and all were standardized before plants were started. Two variables, method of heating and method of covering the beds were considered in the results. Recording thermometers were used for keeping a continuous check on temperatures. The same varieties and species of plants were used in each bed to be compared. Watering was done uniformly at the same time. Labor for maintaining the beds was kept at a minimum.

Heating Methods

Three methods of hot bed heating were chosen for study: active manure, electric cable, and incandescent lamps suspended over the bed from beneath the sash.

Two 4-sash beds were provided with high grade active manure; two beds were provided each with two 60 foot soil heating cables (400 watts each); and two other beds were equipped with eight 25 watt, inside frosted Mazda lamps for each 3 ft. x 6 ft. sash. The wattage per sash was 200 in all of the electric beds.

Preliminary study of lamps for heating indicated that the radiant energy from ordinary 25 watt incandescent lamps (vacuum type, inside frosted) would fulfill hot bed heating requirements, while the use of higher wattage Mazda lamps (gas-filled type) created "hot spots" in the bed. With gas-filled lamps, soil temperatures were not uniform, seed germination was spotty and growing plants beneath the lamps often became scorched.

The lamps, fitted with inexpensive porcelain sockets, were mounted on 8½" centers to the under side of a 6 foot removable wooden 1" by 4" strip, which spanned the

Cable heated beds. A bottom layer of cinders; thin layer of soil; cable; thin layer of soil; protecting screen wire. Cable was about 1 inch beneath the surface. Bed same depth as for lamps.

bed just beneath the center of the sash, as shown in the illustration. The distance between the bulb and soil surface was 19½". Reflectors were omitted for two reasons; first, the radiant energy actually lost through the sash was too small to justify reflectors; and second, reflectors would have increased the illumination at bed surfaces causing undue acceleration of plant growth.

Light stimulation, when properly controlled, has proved highly desirable in some applications of greenhouse plant growth. In this project, however, minimum acceleration from artificial light was considered desirable, since some plants, like radishes, produce top growth too rapidly and go to seed when subjected to supplementary illumination. Tests also show that small plants "starve" when *high intensities* of light are applied at irregular intervals during the night as heating periods go on and off.

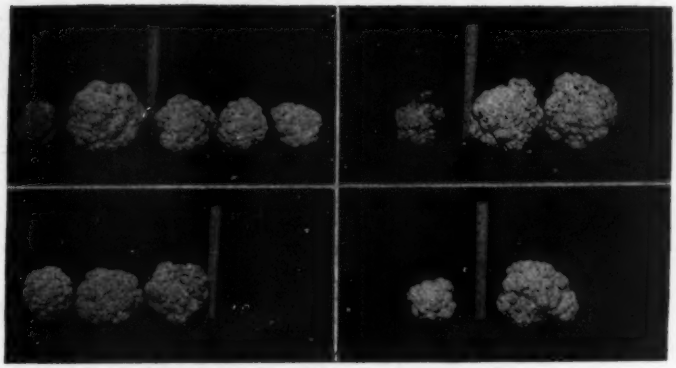
Blue inside colored lamps were used in one bed for heating. They were found to use more current for the same amount of heat received than the regular inside-frosted lamps. The inside frosted lamps were much more satisfactory, and the light the plants received was found to be beneficial.

The three methods of heating had rather definite effects on the field development of plants. The lettuce, cauliflower and cabbage developed their crop of marketable heads seven days earlier when the plants were grown in the lamp heated beds, plants from all the beds having been field set on the same day. They also averaged larger in size. We recorded the height of these plants at field setting and twice during the growing season. The plants raised under lamps grew at a more rapid rate after being set in the field, which explains their earlier maturity. We did not find the tomato, pepper and eggplant field-growth to be affected by the method of heating. It seems that these plants under glass or film and heated by lamps or cable were rather uniform in their rate of growth and total number and weight of fruit for the season. Photographs of some of these results are shown.

Lamps Cost Less

The cost of incandescent lamp hot bed construction is somewhat less than electric cable heated hot beds, and because the heat is of the radiant type and applied from above, we did not use mats on cold nights, although their use would reduce current consumption.

Electricity to operate the beds for the 3 months' period was least for the lamp heated, film covered bed. Then followed in order lamp heated, glass covered, cable heated, film covered, and cable heated, glass covered. The manure bed operating cost was about an average of all the electric beds.



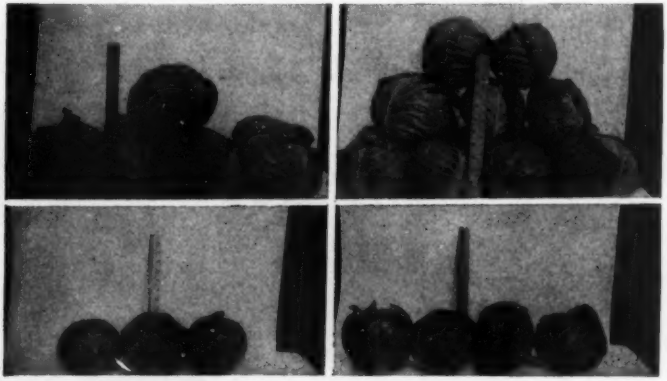
Cauliflower harvested on July 2, 1939. In each case these were all of the heads that were of marketable size on that date. Field culture had been the same for plants from all of the different hotbeds. **Upper left:** Lamp heat, film sash. **Upper right:** Lamp heat, glass sash. **Lower left:** Cable heat, film sash. **Lower right:** Cable heat, glass sash. No heads from plants grown in manure heated beds at this date.

Glass Substitutes

In our study of glass substitutes, we equipped some of our experimental beds with clear cellulose acetate film of the type used with success in porch enclosures, storm windows and in poultry houses. The greater heat insulating value of this film, compared to glass, and the fact that it is not affected by weather conditions, retains its strength and elasticity for years, and transmits more of the solar rays than glass, led us to select this material in our study of glass substitutes. Film of 0.005 inch thickness costs about the same as glass.

The film-covered beds gave equal results with glass. Cabbage and cauliflower plants from film beds did not show any sunburn when set in the field, as was observed on the plants from the glass beds. This is probably due to 95% of the sun's rays passing through the film, thus making the conditions in the film beds near to normal conditions in the field.

The cellulose film is very light in weight and this is an advantage when ventilating, watering, etc. It is usu-



Cabbage harvested June 28, 1939. Before field setting, plants were grown as follows. **Upper left:** Lamp heat, film sash. **Upper right:** Lamp heat, glass sash. **Lower left:** Cable heat, film sash. **Lower right:** Cable heat, glass sash. There were no cabbages ready from the plants grown in manure heated beds. There was no observable difference in field growth of tomatoes, peppers eggplants produced in the different hotbeds.

ally necessary to run a wire over the sash and anchor it at both ends to prevent the wind from blowing the light sash from the beds. It is an easy matter to make sash and cover them with film during the winter months at less expense than for the ordinary glass covered sash. The cost of heating with incandescent lamps or electric cable is somewhat less on the film-covered beds. After three years' use, it appears that film is as good, if not better than glass for covering hot beds.

Results indicate that incandescent lamps for heating and film for sash covering are worthy of consideration and trial for use where early plants are to be grown in hot beds.

* * *

Editor's Note. This article is presented to keep you informed on the newest developments in the use of electricity. We do not recommend the use of lamps to the exclusion of other methods of hotbed heating, but do think they are worth a trial on a modest scale, at first. Lamps as heaters have several advantages from the construction standpoint. Lamps and sockets may be easily obtained, even in small towns; they are inexpensive; almost anyone can connect them for use; and they may be used for small beds where cable is not well adapted. Lamp heat is excellent for seed germination and starting seedlings. It is more questionable for growing larger plants, as different plants respond differently to light. Lamps must not be kept lighted constantly in hotbeds. Most plants require alternate periods of light and darkness for growth.

ELECTRICITY FOR GRINDING FEED COSTS NOTHING

By E. T. SWINK

Asst. Agric. Engineer, Virginia Polytechnic Institute

"I FIGURE that the electricity I use for grinding feed doesn't cost me anything," was Mr. B. C. King's reply to my question on what it cost to operate his hammer mill. Mr. King then went on to explain his reason for answering the question in that unusual way, and his explanation amounted to a practical analysis of the cost of grinding feed on his farm and how electric service had solved the problem in an entirely satisfactory and economical way.

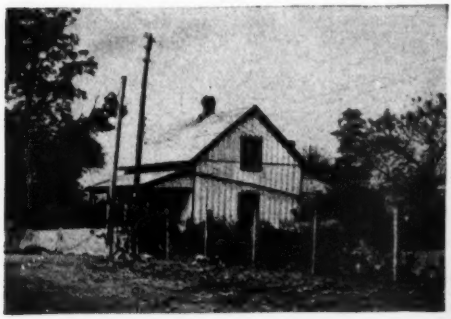
The King farm consists of 147 acres of rolling cultivated and grazing land in Wythe County, Southwest Virginia. It is what we think of as a general farm with approximately 100 hogs, 50 turkeys, 100 laying hens, 5 milk cows, 10 yearling beef calves and 300 to 400 broilers per year. About 60 acres of the farm are under cultivation producing wheat, corn, barley and oats, most of which is fed to the poultry and livestock. A large part of the remaining acres is in permanent pasture and hay crops.

An electric power line was built by the King farm in 1937 and the modest home, barn and outbuildings were wired for service. The electricity was turned on December 6 that year, and it has been the cheapest hired hand on the farm since that date. The monthly minimum bill is $2.50, which pays for the first 55 kilowatt-hours of electricity used each month.

Grinding Grain Pays

In discussing the feed grinding problem, Mr. King said: "I have always known that grinding grain before feeding it pays, that's why I had been hauling it 8 miles to the custom mill, paying the miller a toll of ⅛ for grinding, and hauling it 8 miles back home. I had never seen a satisfactory feed grinder and power unit small enough that I could afford to buy and operate until the day the salesman brought the little electric hammer mill here to the farm for a demonstration. I looked it over quickly and remarked that it was no use to back that "coffee grinder" up to my corn crib. The mill looked tiny "sure enough" and the name plate on the motor read just *2* horse power. However, after seeing how it ground ear corn through a ⅜-in. screen, and the other types of grain I grow, I changed my mind. I purchased the complete mill and consider it a good investment."

Since most of the grain produced on this farm is fed to livestock, approximately 1000 to 1200 bushels are ground each year. This would mean a toll of 125 to 150 bushels per year for grinding at the custom mill. The complete mill only cost around $150, so that the saving in toll charge alone for two years has more than paid for the mill. The cost of hauling to and from the custom mill amounted to more than the cost of the electricity the mill uses, in fact the difference between the cost of the electricity and the cost of hauling actually more than pays for the electricity. In addition to that Mrs. King pointed out "I usually had to drive the truck to the mill and it always seemed that we ran out of feed just at the time when I had some important household work to do. Now, either of us can run the mill at night or during spare time, eliminating all the trouble and expense of hauling, and at the same time we always have fresh feed."



Above: The farm home of Mr. and Mrs. B. C. King, Wythe County, Va. Behind the house, wires carry electricity to the poultry house and yard light.

Left: Mrs. King with her two horse-power electric feed grinder. Extra screens hang on the wall behind her and the motor control is mounted nearby.

In addition to the electric feed grinder, the Kings use house, barn, poultry and yard lights, an electric chick brooder, radio, iron, washing machine, mixer and percolator. The electric bill seldom exceeds the $2.50 minimum except when the brooder is operating. The savings being made by grinding feed at home will probably be used for installing other money and labor saving equipment such as a water system and refrigerator. The comforts, conveniences and profits derived from the use of all this equipment can then be credited to the little feed grinder and the electric power that runs it so economically.

—Be proud I am a farmer—

LIGHTS; WARMERS

Lights Cost Two Eggs Per Day; Increase Production Eight Dozen. Water Warmers Recoup Cold Snap Slump

By HOWARD CLAPPER

A FLOCK of 680 pullets were brought along carefully by Paul De Bolt of Knox County, Indiana, and during August and September they began to come into production. By the last of September they were

One of the water warmers used by Mr. DeBolt.

up to 55 per cent. Then production leveled off and up until October 1st remained steady. Mr. De Bolt figured that this was the time to give his layers extra hours of light, so with his time clock he began turning on electric lights at three o'clock in the morning and letting them burn until daylight. Immediately production began to increase, and by the third week in October it had jumped to 70 per cent. In the third week these 680 pullets laid 281 dozen eggs, 63 dozen more than they laid three weeks previously when no extra lights were used.

The laying house on the De Bolt farm is a four-story building and the 680 layers are quartered in six separate compartments. For the three hours use, all the lights consume only 1.2 kilowatts per day. At three cents per kilowatt-hour this amounts to four cents a day, or in other words two extra eggs per day would pay for all the electricity used. But Mr. De Bolt instead of getting just two extra eggs per day is getting eight dozen extra eggs per day, and he is getting them while prices are at their seasonal peak.

A year ago this fall the laying flock on the De Bolt farm was in full production when a cold wind blew out of the north and the mercury hit bottom in the thermometer. Winter was here in earnest. Now the hens didn't mind the cold so much, but there was one thing wrong. The electric lights which were timed to come on regularly at three A. M. continued to operate and the hens got up early ready for a big day's work. But as Paul explained later they might as well have stayed on the roosts, for the drinking fountains would be frozen over until he got out in the morning with hot water to thaw them out. Production dropped off sharply. From an average of 188 dozen per week during December, it dropped to 117 dozen for the first week in January. Then electricity came to the rescue. Six 150 watt poultry water warmers were purchased. One was placed in each of the drinking fountains. These warmers which contain a built-in thermostat maintained the temperature of the drinking water at 50 degrees throughout the coldest nights, and by the middle of January, with the weather still severe, egg production had climbed back up to the previous high level.

For Early Hatching Eggs Use Lights on Hens

HENS which have just completed molting and are to be used as breeders can be quickly brought into egg production by the use of artificial lights starting in early January, according to C. S. Platt, associate professor of poultry husbandry at the New Jersey College of Agriculture, Rutgers University.

"Artificial light should be started at 4 a.m. and continued until normal daylight," Prof. Platt advises poultrymen. "Or, if more convenient, the artificial light may be used during the evening, in which case it is advisable to turn it on at about dusk and keep it on until eight o'clock. Hens that are permitted to come back into their production under normal daylight hours will not reach a satisfactory level of production until March or April, while birds subjected to artificial light can be brought into a high rate of lay by the first of February. A large quantity of hatching eggs early in the season is often desirable, and lights are absolutely necessary if March-hatched chicks are to be reared.

"Only hens that are furnished with artificial light will produce hatching eggs at this time, and any plans for the use of light should take into consideration the months when the greatest number of eggs is desired. If the bulk of the hatching eggs is needed in April and May, there will be no advantage in supplying artificial light to the breeders, for birds carried through normally will meet the needs of such a condition.

"In some instances, pens on the same farm can be divided into lighted and unlighted groups, with the idea of having some of the birds supply a large number of hatching eggs early in the season, and the others meet the need later. Artificial light does not in any way injure the hatching quality of the egg, and no evidence has ever been presented to show that it had an ill effect upon birds."

THE 15-WATTER

Transparent globe with stubby neck.
Thread sized wires and a speck
Of odd shaped glass, within.
Crown of brassy stuff, with cork-screw dents,
Topped by a bit of solder.
Costs ten cents.

RUTH M. BITTNER,
Westmoreland Depot, N. H.

And if you want more light, perchance
You'll take a quarter from your pants.
'Twill buy two 40's, 50's, 60's;
Or fifteen cents buys 100's—"niftys".

HYBRID SEED-CORN PRODUCTION

Electricity Helped Me Earn This Money

I HAD a building on my farm that was not used for anything in particular, and being a producer of hybrid seed corn I built a seed drier in it for my own use. The drier worked very efficiently and soon the other growers in the surrounding territory came to look at it and some of them had me dry their seed for them. This was in 1939. This year more growers came and wanted to dry corn and before I knew it I was booked up with three months' work. The blower in the picture is operated by an electric motor of 1½ H.P.

Four years ago, I built my own corn grader for hybrid seed, and have been doing some custom work with that also. This year I expect to have all-winter work grading. It will give another man work too, which I think is a very good thing, as most farmers have no use for men in the winter.

My seed house has an inside cup elevator which is operated by an electric motor (1 H.P.). I clean all the seed with a fanning mill before grading, and this is also operated by a motor.

All the machinery uses electricity. I have found that gasoline operated machinery of the same type costs at least two-thirds more to operate.

JOHN A. NEUMANN
Wood Lake, Minn.

A "divorce preventer." This heating pad has thermostats to cut off the current if the temperature gets too warm and an adjustable heat switch.

Does Your Wife Have Cold Feet?

By CAROLINE S. COLEMAN

RECENTLY we noticed in the news that a judge had granted a certain husband a divorce because the man had complained that his wife had chronically cold feet, and insisted upon warming them against her husband's back. Good enough grounds, said the dear man. But what about the wife, and how is she to warm her feet if the husband refuses a hospitable back for the purpose?

The answer is an electric heating pad, one for the wife and one for her hubby, and save cold feet as well as divorces.

I can say from experience that there is no inexpensive gadget to compare with the heating pad. It yields the largest returns for the money spent of any other one thing in my home. It is such a comforting "bed fellow" that I could not do without it.

Our farm home is not modern, and therefore not steam heated. It is not an unknown thing for the family to crawl in between cold sheets at night. What a joy is the electrically heated pad! There's a socket for it at the head of my bed.

A good pad can be purchased for as low as three or four dollars, and it takes very little current to operate.

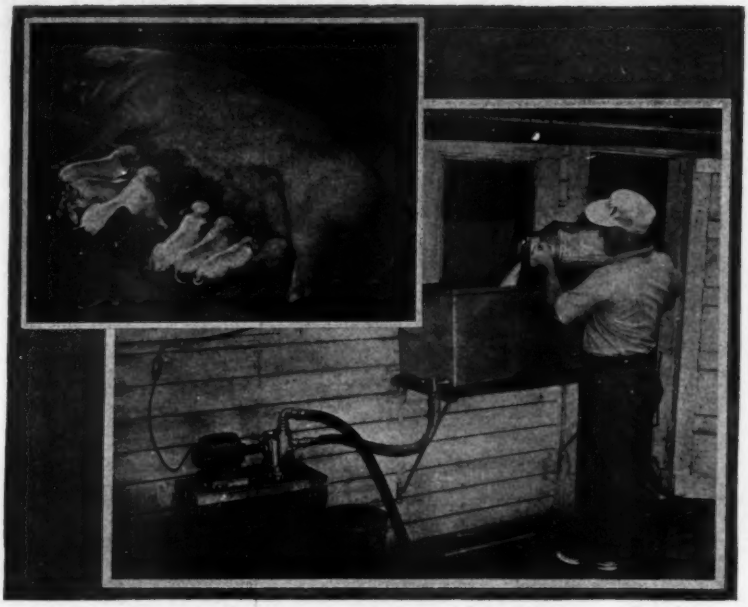
In the old feather-bed days, when there was sickness, a hot brick wrapped in flannel, or the family flat iron smothered in grandpa's discarded long woolen "undies," was placed at the feet of the patient.

Now we use the electric pad, with its controlled heat, and no changing or renewing is necessary. Being a sufferer with arthritis, I can never say enough for the virtues of the heating pad in relieving pain.

If you want to prolong the life of your heating pad, do not fold or crush it, as this tends to break the wires. Keep it in a dry place when not in use, and don't leave the current on when unnecessary. With ordinary care even an inexpensive pad will last for many months.

Future Farmers Active

Under the direction of Dwight Henley, Smith-Hughes instructor, the Future Farmers of America Club of White Bluffs, Washington, has been working on a project of raising pigs in electric brooders. Results of the project, carried on by Walter Grisham, Dean Hall, and Arthur Heideman, with six sows, were 12 pigs farrowed per sow and 9.83 pigs saved per sow. The young farmers reported that the electric brooder method resulted in a large saving in the amount of attention required and the labor needed in caring for the pigs.



Don Laing pouring milk into receiver tank to be pumped to the hog pens at Hollywood Dairy. A ¼ h.p. motor and rotary pump do the pumping.

Insert: "Pig pumps" before skim milk makes up the diet.

WHY CARRY MILK TO PIGS?

By G. H. BLIESNER

Today one thousand gallons of skim milk are carried via electric power to hogs for one penny on the Hollywood Retail Dairy. The Hollywood dairy farm, owned by J. A. Bucher, is located in the Columbia River Gorge, thirty-five miles east of Portland, Oregon. Dairyman Bucher uses his skim milk to feed out several pens of hogs, supplementing his farm income from the dairy herd.

Ten years ago, Mr. Bucher used five-gallon buckets to carry skim milk. At that time he fed approximately 60 gallons of milk to 20 hogs each day, which required 6 trips to the hog barn. In 1935 Mr. Bucher purchased an old truck to carry the milk in ten gallon cans. The truck hauling system eliminated considerable walking.

In recent years, with electric power available, the idea occurred to Mr. Bucher that the cost of getting the skim milk to the hogs would be less if it could be pumped to the feeding pens. Shortly afterward an old brine refrigeration system was replaced by a more modern system, leaving a ¾ horsepower motor and brine circulating pump available. The extra motor and pump were just the thing to replace the skim milk truck. Approximately 50 gallons of milk are now pumped in ten minutes. The milk is taken from the cream separator and poured into a large stainless steel tank from which it is pumped through a pipe into 150-gallon barrels in the hog barn.

RADIANT HEATER DRIES DISHES

By RAYMOND DONOVAN

•

MRS. BOLM, of Pine Road, Morris Plains, New Jersey, keeps house for seven people on the farm. There is a big stack of dishes after every meal. Time is valuable to Mrs. Bolm, and she wastes none drying dishes. She puts a small radiant heater to work (see illustration) doing the job for her at a cost of about twenty cents per month! Try and hire a girl to dry dishes only once for that sum.

Here are the benefits from this simple little method of drying dishes.

It saves eleven hours extra work per month. When she has company for dinner she washes the dishes, dries them with the heater and has an extra fifteen or twenty minutes to be with her guests. Her laundry time is cut because she has no dish towels to wash and hang on the line. She has far fewer broken plates, cups, or saucers because electric drying means less handling and thus less chance of breakage.

Before getting her hands wet (an important thing to remember to avoid shocks) she switches the heater on, placing it so that it is focused upon the first cup washed. Thus by the time all the dishes are washed some of them are dry.

Seeing the heater on a shelf during the warm months gave Mrs. Bolm the idea of putting this cold weather equipment to work all year.

On rainy days, when a few pieces of clothing must be dried on the emergency line in the kitchen, she turns the heater on them from a distance of about four feet and in fifteen or twenty minutes they are dry enough to iron.

New WESTINGHOUSE DOLLAR-STRETCHER

New, inexpensive way to Make Motors Portable

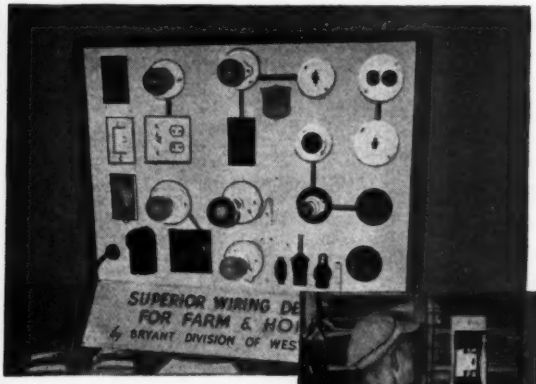
Now, you can move your Westinghouse motor from one machine to another quickly and easily on the handy truck illustrated at left and below. You can make the truck yourself if you have a hacksaw and drill press, or have it made at your garage or blacksmith's.

Complete instructions for making this truck to fit motors, 1 to 5 hp, are given in the new Westinghouse booklet *Farm Motors*. Send for this booklet—cut your investment cost and make your work easier with a portable Westinghouse motor that you can use to drive several different machines!

IT WILL PAY YOU TO SEND FOR THIS *FREE* BOOK

Answers questions about electric motors in simple, nontechnical language. Illustrates and describes the principal types of farm motors. Gives complete instructions for making both fractional and integral horsepower motors portable. Shows how Westinghouse motors are made burnout-proof with built-in Thermoguard. If you now use or intend to buy an electric motor, *send the coupon today!*

It's just the work of a minute to change your Westinghouse motor from one job to another with this homemade truck. The popular Westinghouse Type CR Farm Motor in 2 hp size is shown.



Here's the latest in wiring protection being installed (right). It's the popular *Nofuse* Multi-Breaker. For lasting economy and convenience be sure to get this fuseless protection when you install new or additional wiring.

BETTER Service with BETTER Wiring

Have you longed for the convenience of electricity in barn, garage, tool shed or other buildings not now wired? Do you have to stumble over long extension cords in the house because there are not enough convenience outlets? Can you turn yard lights off or on from either house or barn, with a two-way switch?

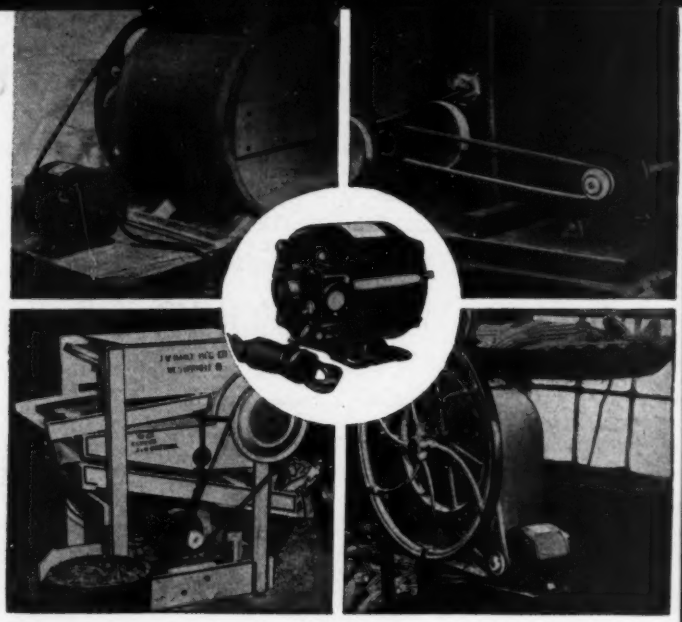
Typical Bryant Superior devices for better wiring are illustrated on the display board shown at the left. When you plan new or additional wiring, be sure to specify *Bryant Superior* for maximum convenience, safety and economy. Remember, it's always cheaper and more satisfactory to do an adequate wiring job in the beginning than to remodel an inadequate wiring system later on!

ER for YOUR FARM!

Hire this helper at a PENNY AN HOUR

Did you know that a Westinghouse ¼-hp motor will do the work of any man working steadily—and do it for a penny's worth of electricity an hour? Shown at the right are a few of the many jobs you can do with just one of these motors, equipped with a portable mounting.

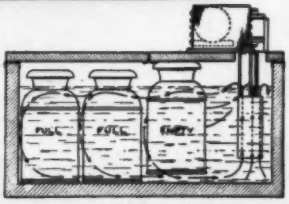
The motor illustrated (in circle) comes complete with 9-ft. cord and plug, and off-on snap switch. See your Westinghouse dealer for this remarkable motor value!

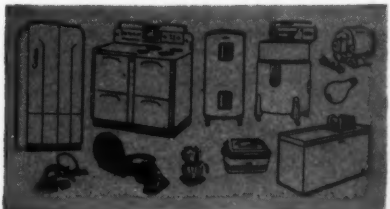


NEW Low-cost MILK COOLER Fits your Present Tank

Now you can afford electrical milk cooling! If the tank you have been using for water or ice cooling is well insulated, simply cut a small hole in the cover and insert this new low-cost Westinghouse cooling unit. Also available with efficient low-cost cabinets. Capacities from 2 to 16 cans. Compressor unit is Hermetically-sealed against moisture, dust and trouble; backed by 5-year Protection Plan.

Illustration above shows simplicity of the new Westinghouse drop-in milk cooling unit. Right, positive water circulation maintains uniform temperature in all parts of tank. Water level can be maintained when only part of tank capacity is needed.





***941 4-H Club Rural Electrification Contest** is ready. Ask your County Extension Agent.*

Westinghouse

and Every Farm

EVERY HOUSE NEEDS WESTINGHOUSE

Westinghouse, Dept. 1005, Mansfield, Ohio

Without obligation, please send me:

☐ Booklet, *Farm Motors*, and information on items checked below:

☐ Refrigerators	☐ Water Heaters
☐ Ranges	☐ Vacuum Cleaners
☐ Roasters	☐ Wiring
☐ Laundry Equipment	☐ Lighting
☐ Milk Coolers	☐ Table Appliances

Name_____

Post Office_____

RFD_____ State_____

Electrical HOUSEKEEPING

Conducted by GAIL MEREDITH

COOKING IN A WELL

IT IS easy to be careful with fuel when you cook on an electric range. Electricity is a fuel you can buy for two minutes or two hours to give you just the heat you need for any cooking job; and electric ranges are built to make the most of every bit of the heat.

There is the well cooker for instance. That's a thrifty device if there ever was one. Its immediate ancestors may have been the portable electric cookers you are familiar with, but it can trace its origin farther back to the old fireless cookers your grandmother used.

Light, fluffy dumplings top the stew

Perhaps you know all about them, but if you don't, let me just say that the well with thickly insulated sides, and a heating unit in the bottom or embedded in the walls, is sunk below the cooking top of the range. A deep kettle fits into it with only the lid and handles showing.

Since these cookers are designed particularly for long, slow cooking, they have rather low wattage and are "Scotch" with fuel even when you use them for a very long time.

You might almost think they had been designed with stews in mind. Now stews haven't always had a good name, but the fault, I do believe, lies more with us than with the dish.

Most anyone can roast a turkey, but it takes study, inspiration, — I almost said genius to serve up a stew of distinction. Meat for stews is cheap. Let's say it right out bluntly. But it is also nourishment and, rightly prepared, it can be delectable.

To make it tender such meat needs first of all, long, slow cooking with the lid on the kettle, and we do not want the cost of the fuel to equal the difference in cost of meats. If we put the meat in one of these well cookers and let it cook for hours, we will not be using very much fuel, because, as soon as the steam comes through the vent in the cover, we'll turn the switch to Low, where the burner will take just about as much current as we use in a kitchen lamp.

Spareribs and sauerkraut

Moreover, cooking this way saves not only the difference in the cost of the food, the difference in the cost of fuel, but it saves preparation time, too. Once you put the meat in the cooker it needs no watching. The kettle won't burn dry, nor the meat stick to the bottom. Low heat does that for you.

But we must get back to the stew. If you want to get away from pale, nondescript stews, try cutting the meat, in even regular squares, roll the pieces in flour and brown them in a frying pan before you put them in the cooker.

Seasoning is the secret of perfection in a stew. You can begin your seasoning by searing the meat in shortening that has had a few thin slices of garlic, some minced onion, and a carrot sauted in it. Then pour hot water or stock over the browned meat,—not cold if you value your stew. Cold water will draw out the flavor and give you delicious gravy, but it will leave the meat stringy and tasteless.

You can put the vegetables into the cooker early or late in the making of your stew. If you want them to flavor the meat, stick them in early by all means. But if you want each vegetable to have an individuality of its own, put them in just in time to cook them done. Trust to other seasoning for the flavor.

This is the hour for the dried fragrance of your herb garden to add its subtle tantalizing tastes to the contents of the pot. A leaf of

bay for beef, sage for pork, a few sprigs of parsley and finely chopped chives. Or, if you will go farther afield, add three cloves stuck in an onion or a teaspoon of tarragon vinegar to the dish.

Naturally you will want to experiment with seasonings, for once you realize the elusive, intangible difference a herb can make in the taste of a dish, you'll never again think pepper and salt are all you need.

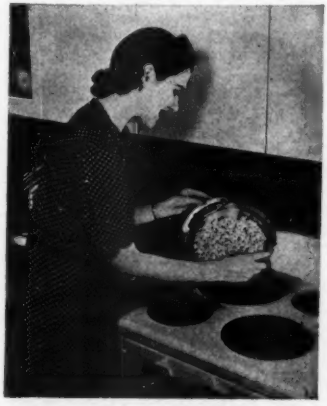
Of course dumplings are a grand topping for a stew. So are tiny baking powder biscuits. These can be baked in the oven and put on the top if you pour your stew into a casserole, or arranged around the edge if you turn it out on a platter.

But stews are not the only way to use the inexpensive cuts of meat. If you want a pot roast for dinner, you can cook it together with a couple of vegetables and a dessert all at one time in a well cooker. With a dinner of flank steak, onions, potatoes, and upside down cake, you can get the food ready and then cook it all at once with no more watching than you need to get the vegetables and dessert in at the right time.

Preparing the Meat

Some time around nine-thirty, you'd start out by wiping two small flank steaks with a damp cloth. Then sift together three tablespoons of flour, one teaspoon of salt and a quarter of a teaspoon of pepper and pound this into both sides of the meat with the edge of a saucer.

Make a stuffing by browning half a cup of chopped celery and a minced onion in two tablespoons of butter or beef drippings and adding a cup and a half of stale bread crumbs seasoned with a teaspoon of salt and a little pepper. Spread this mixture on the steaks, then roll them and fasten them with skewers or string.



Popcorn!

Melt two tablespoons of fat in the kettle with the switch turned to High, or, if you are in a hurry, lift the kettle out on one of the surface burners. Brown the rolls of steak, turning them frequently. When the meat is seared enough, put the cooker back in the well and pour two cups of tomato juice over the meat. Leave the burner on high until steam comes out through the vent in the cover. Then turn to Low and let the meat cook for about two hours, or until it is tender.

About an hour before you expect it to be done, you can put in six small potatoes and six small onions. And over the top of the meat and the vegetables, you can set a trivet to hold a pudding mold.

Upside Down Cake

The upside down cake is easy to make and very pleasant to eat served with a dollop of whipped cream.

This is the recipe:

¼	cup butter	¾	cup sugar
2	eggs	3	tsp. baking powder
	milk	1	tsp. vanilla

1½ cups sifted all purpose flour.

Melt butter in a measuring cup. Drop in two unbeaten eggs. Fill cup with milk. Add to mixed and sifted dry ingredients. Stir until thoroughly blended. Add vanilla.

Butter a small pudding mold. Add brown sugar to depth of one-fourth inch. Cover with nuts or fruit — peaches, pears, apricots or prunes— then pour the batter over the mixture.

Now don't get all worked up about having your upside down cake taste like onions. If you'll keep that switch turned on as long as the food is in the cooker, the steam will continue to drift out of the vent in the cover. The meat and vegetables and the pudding will all cook in the steam, and each will come out of the kettle with its own special flavor. You can combine any vegetables you like just so they'll cook in about the same time, and you'll know which is which when you are eating them. It seems that it's all a matter of heat. The heat keeps the steam moving and the moving steam prevents the mingling of flavors.

For deep fat frying use a thermometer to assure the right temperature for the foods you are frying. Some cookers will maintain a frying temperature for any foods; others will fry doughnuts and fritters but do not get hot enough for all kinds of frying. The deep cooker kettle may also be used on a surface burner.

The well cooker is a grand place to cook a vegetable dinner. You just prepare the vegetables as you would for oven cooking, salt them, butter them if you like, but do not add any water if you are putting them in pans. It is better to cook beets separately, either in their own pan or in cookery parchment. One or one and a half cups of water in the bottom of the cooker will usually maintain steam enough to cook puddings and vegetables.

There is lots of room in the cooker to cook green leafy vegetables with

only the water that clings to the leaves after you wash them.

In fact the longer you live with one the more you realize that a well cooker is the jack of all trades of your range. If your family is small, and you want baked potatoes or a plate of hot biscuits without heating up the oven, you can bake them in many of these cookers.

You can pop corn in them. You can sterilize the baby's bottles, and when he outgrows the bottles, you can cook the half dozen different foods for his daily meals at one time. You can use the cooker to sterilize jelly glasses and dishes used in the sick room. You can use it for cereals, for dried fruits, baking beans, making jam, for certain deep fat frying, and for making superlative soup.

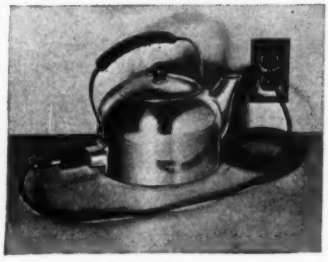
It will get a meal for the small family or a single dish for a big crowd. Well, quite big.

It is a boon to any housewife who is watching out for the money that goes for food, who is budgeting time and saving effort to be ready for the jobs that may lie just ahead for us. For cutting the cost of those three meals a day, there is much to be said for a little, judiciously planned, well cooking.

A COOKER MEAL

Stuffed Plank steaks — Potatoes
Onions
Chilled carrot sticks
Whole wheat bread and butter
Milk — Coffee
Steamed Pecan Upside Down Cake

A Little Hot Water



PERHAPS you have never counted up how many times you need hot water during the day. Mrs. Patten did, Mrs. Frank Patten of Bryan, Ohio, and she set it all down one blustery day last March.

"I think I use my tea kettle oftener than anything else in my kitchen," she wrote me. "I heat water for coffee every morning in the year. Then I heat more water to wash and scald the dishes. I leave a little out to rinse the dishtowels, but I have to heat a full kettle to make a hot mash for the chickens.

"After the chickens are fed, the hired man comes in with the milk and wants hot water to wash his hands. I need some more to mop up the floor after him and to scald the milk pails. Then Pa comes in and lifts the tea kettle. 'If there's any hot water, I'd like to shave,' he says. There are stockings to wash and the baby to bathe. I have to fill the kettle to thaw ice off the back porch. The dog pushes his dish of milk over and I need hot water to wash off the spot.

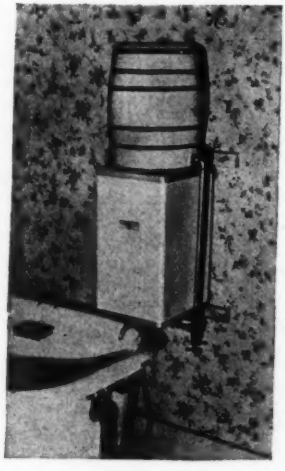
"Yesterday an auto ran over one of my big hens and we put the kettle on quick so we could scald her and have unexpected chicken for dinner.

"After a long snowy day, Pa comes in cold and wants hot water for a foot bath. I want to rinse my churn so I can put the cream in, but I have to wait for the kettle to heat again. Then I make a hot lemonade and shake the kettle. Yes, there is enough left to wash out the children's rompers so they will be dry by morning.

"My tea kettle certainly never has a vacation."

There has to be a fire under that kettle all day long. And somebody has got to keep stoking the fire if the water is to stay hot enough for Mrs. Patten's need.

That is where electricity comes in for anybody's water heating. It will heat water in a heater in the basement, giving constant hot water when you turn a faucet. It will heat tea kettles in short order. There are several electric tea kettles on the market that you can plug in and heat anywhere in the house simply by pushing in a plug.



One woman I know keeps water in the thrift cooker of her range. She says she uses it as she did her old reservoir. This is unquestionably convenient, but would not be an economical way of heating water in large quantities.

Small Portable Units

There are portable water heaters, two-gallon heaters that can be fastened up over a sink, in the bathroom, or—in case father is listening—in the dairy.

These heaters you fill from the top and empty through a faucet near the bottom. They have 1000 watt heating elements and will heat two gallons of water from room temperature to 150 degrees in twenty minutes, I am told.

They help out the tea kettle.

Improvised Brooder Helped Pay Year's Electric Bill

(Winning Letter in October Contest)

One cold, damp morning last Spring, (I now confess), I was sorry when I counted twenty newly hatched little turkeys. They were placed in a warm basket near the kitchen range, while the problem of their immediate future was pondered.

Near my back door is a good shed with a large south window, to the level of which I elevated a shallow wooden box about 3x2 feet. Part of the floor of the box was replaced by a strip of ½ in. hardware cloth, on which to place feed and water. In the other end of the enclosure a 25 watt bulb was suspended. The top of the larger box was covered quite well with the exception of a piece of glass at the end where feed was replenished.

This one bulb furnished sufficient heat until weather permitted the poults to be put on hardware cloth in an outside coop.

In December I hope to market these turkeys, and at a fair price, they will easily clear what is equal to our Electric Bill for one year at our minimum of $2.50 per month.

DESSA BOYD,
Amboy, Ind., R. 1.

A HAPPY NEW YEAR TO YOU

IN spite of wars and the threats of wars I hope that this year will bring to you that deep, inner joy that can outride the hurricane and outface disaster. A long time ago a rather sentimental writer wrote a paragraph in one of her stories that I have kept in my heart for many years.

"For we are all like children crying for the moon," she wrote.

"Wanting and wishing for something we do not have. And when we get it, why, there's always something else we would rather have. And nothing can ever make us truly happy but the light within."

With the steadfast hope that you may have in your own hearts this inner light, I say again, I wish you Happy New Year!

• • •

JANUARY CONTEST

A new contest this month. If you'll think back over the last twelve months, you'll find some particular moment when electric current wired to your farm saved the day for you. Mrs. Boyd, the writer of the October contest letter, found it jumping into the breach and saving her turkey poults. A woman I heard about down in Florida says that the radio kept her and her two young brothers awake while they built fires all night long to save an orange crop when an untimely frost threatened, and her father was away.

Whatever your own experience was, tell us about it, won't you? The writer of the winning letter will receive five dollars, and the writers of any others we select, one dollar each.

Send your letters in by January 31, 1941. Address them to Gail Meredith, 700 S. Mills Street, Madison, Wisconsin.

Who Says Gas Is Cheaper?

Our November issue, p. 15 gave a table of comparative cooking costs with different fuels. Mr. Norman E. Olds, Advertising Manager of Perfection Stove Co. points out that the figures on oil cooking may not have been strictly comparable, and states that in a survey of 107 Perfection installations scattered over the country the kerosene consumption varied from about 4½ to 30 gallons per month as compared with 35 gallons given in the table.

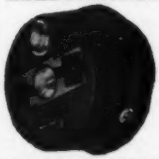
The BABSON Nameplate
on any piece of
ELECTRIC EQUIPMENT FOR THE FARM
is the best guarantee of durability...reliability ...and performance that your money can buy.

Sold on Easy Monthly Terms

The SURGE Milker
***Outsells* All Others—**
Because It
***Outmilks* All Others.**
Mail Coupon Below and You'll Find Out WHY!

NEW SURGE MILK COOLER

More Cold for Your Dollar!
Because of its Shrouded Air Current, the Surge Milk Cooler will produce from 13% to 23½% more ice than an ordinary machine with the same power. Positively the most economical cooler you can buy. Whether your herd is large or small, there's a model for YOU.
Mail Coupon for Free Book



SURGE HIGH LINE FENCER
The Safe...Sure...Stopper—Wet or Dry
Combines legal and actual safety at all times with complete control of stock under all conditions—wet or dry. Approved by the Industrial Commission of the State of Wisconsin.
For Full Particulars Mail Coupon Below.

DAIRY-MAID ELECTRIC HEATER

Now You Can Afford Hot Water Always!
Here—at last—is a portable electric water heater that uses slow heating—plus heavy insulation—to give you an abundant and constant supply of hot water for your dairy, or elsewhere, at a lower operating cost than you ever dreamed possible! We will gladly prove this with 30 days free trial.
Get Our 30 Day Free Trial Offer. Mail Coupon!

CHECK AND MAIL THIS COUPON NOW!

BABSON BROS. CO., 2843 West 19th St., Dept. 5511, Chicago, Ill.
Please tell me what the Babson Electric Equipment I have checked will do for ME. Also send your easy monthly terms offer.

☐ SURGE MILKER ☐ SURGE MILK COOLER ☐ DAIRY-MAID HEATER
☐ SURGE HIGH LINE FENCER

Name.....

Town..... R. F. D..... State.....

I milk.....cows, making.....cans of milk per day

Soil Heating Cable Keeps Pipe from Freezing

By LAWRENCE M. DURYEE

ELECTRIC soil heating cable solved the problem of supplying running water right through the cold weather on a farm in Middlebury, Connecticut, last winter. The farmer needed to keep his watering trough out at the barn filled with water for his stock. The nearest source of water was at the house which was located 150 feet away. Because of rock, it was not easy to dig a trench four feet deep (below frost) to lay a pipe.

On the advice of the representative of the power company, half inch copper tubing was purchased instead of iron pipe. This was laid on top of the ground. One end was connected to the water pump in the cellar, the other was arranged to empty into the tank. The tubing was then wrapped with electric soil heating cable, and covered with an old garden hose slit down the middle and placed over the cable and tubing to confine the heat. A $1 time clock was purchased for automatic control of the heat.

When the tank is to be filled, then heat is first turned on. In ten minutes the small amount of water in the tubing thaws completely. The water fills the trough. When the water is shut off, a valve in the cellar is opened which partially drains the pipe. The time clock is set to continue the application of electric heat for twenty minutes, while the pipe drains.

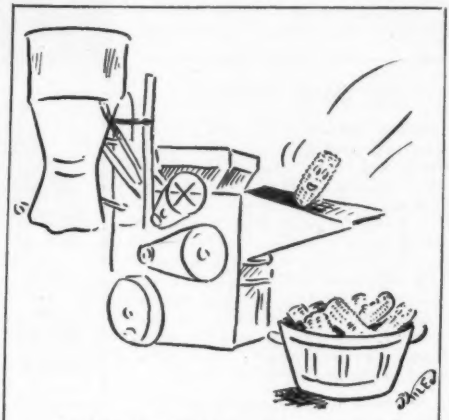
The water in the trough is kept from freezing by a 100 *watt lamp* fastened underneath the cover of the trough, which keeps the water warm even when the thermometer drops below zero. The operating of the soil heating cable for a half hour a day uses about 25 kw-hrs. per month. The hundred watt lamp costs about a dollar a month to operate. Sometimes it is replaced with fifty watt lamp during periods of milder weather.

Light Up and Save Labor

RESTRICTION of the number and size of electric lamps used in lighting dairy barns and other farm buildings is often a false economy. In several barns recently visited the three or four 25-watt lamps gave little better illumination than the old type kerosene, or mantle lantern. Such conditions are not conducive of cleanliness, they slow up chore work and make the buildings a less cheerful place in which to work.

Careful studies contrasting mediocre and excellent lighting conditions prove that a minimum saving of 10 to 25 per cent in chore time can be effected by more adequate lighting. If, instead of five 25-watt lamps, the 50-watt size were substituted in a typical barn installation, and assuming four hours of use per day, the added energy consumption would total only 15-kilowatt hours a month, or at the normal base rate in New Jersey approximately 50 cents for more than twice as much light, a saving in labor hours and certainly more cheerful surroundings.

W. C. Krueger, N. J. Extension Service.



"So long, I'll be fine when I come out!"

"You sure should have heard de new pastah pray."

"Was he fervent?"

"Fervent? Why, brudder, he done asked de Lawd for things none of us ebber knew de Lawd had!"

Monarch
ELECTRIC and COAL-WOOD
COMBINATION RANGES
Built to provide year 'round convenience and comfort in the farm kitchen. See your Monarch retail outlet or write us for booklet illustrating 5 different models.
MALLEABLE IRON RANGE CO.
1240 Lake St., Beaver Dam, Wisconsin

BROOD CHICKS SAFELY and for LESS COST!!
Use an ANDERSON ELECTRIC BROODER
Brood chicks the safe, low-cost, modern way—with electricity. Insist on a genuine Anderson Electric Brooder and profit by new, sound and up-to-date improvements. Models . . $1.75 to $39.50
Retail from $1.75 up
See your Dealer or Write today for low prices.
ANDERSON (Fan Type) Nu-Air
For those who want the best. Has cut operating costs tremendously.
Dealers . . Write for new set-up.
Everything in Poultry Supplies
ANDERSON BOX COMPANY
Dept. 63 INDIANAPOLIS, INDIANA

ON THE AIR

Conducted by JEROME J. HENRY

A Few Crests on the Radio Waves

"PUSH Button Tuning," the popular comedy feature of the Fred Waring radioshow, is written by two singers of the Waring Glee Club, Paul Gibbons and Craig Leitch. It is enacted by members of the gang with a flair for imitating sports announcers, cooking experts, characters in a script show, and other familiar radio types. So well do they do their job that the listener actually gets the impression that someone is pushing buttons haphazardly on an automatic-tuning set. The "Click" heard between excerpts to indicate switching from one program to another is an electric light switch, operated by one of the authors, Craig Leitch.

"The Voice That Walks Beside You" is Connie Miles. But Connie is a shortening of a perfectly good masculine name, Corneil; and Mr. Miles thinks it's unfair that because of his nickname, he should be called Constance, or Cornelia or Camillie.

During a recent script-writing session in the smaller hours of the morning, Charles Gussman, author of the Li'l Abner serial, found he needed a telephone number to use in the sequence for the following day's broadcast. Since the central office of the Chicago telephone company was closed at that hour he was unable to secure a "dead" number. So, in the rush to complete the script Gussman inserted his own home telephone number for the one which the gangster villain of the show used to call one of his henchman. The gangster issued an order that the body of a man be removed from the room of one "Diamond Gus Charles." Author Charles Gussman wishes he hadn't created Character Gus Charles, at least not with his own telephone number. For he has been receiving telephone calls from those who believe all they hear—even on radio serials.

Last summer Ann Thomas rounded out her 35th Broadway stage production, and having sufficiently conquered that field, became a radio star—as you will know if you listen to the "Johnny Presents" shows on Tuesday evenings. She doesn't look old enough for such a long career? She started at the age of four.

Radio Villain Creates Laughs

IN his earlier days of radio acting Alan Reid was known as one of

PROFIT FROM Running WATER

In these days of cutting corners wherever possible to boost farm profits, running water is a valuable assistant.

All of the comfort, convenience and money-saving advantages of running water are available to you in an Aermotor Electric Water System at surprisingly low cost. You'll find it *more* than pays its way every day.

Aermotor Deep Well Systems have all moving parts enclosed, thereby offering perfect safety for children and grown-ups. Also, the famous closed gear case construction, which keeps out all dirt and water, adds longer life to your pump.

Shallow Well Systems provide an automatic built-in fresh water system—an invaluable convenience for the discriminating home owner.

Present low prices offer an unusual opportunity. Mail coupon for details.

AERMOTOR CO.

2500 ROOSEVELT ROAD, CHICAGO, ILL.

Send free "Facts" Book about Aermotor Water Systems, and name of nearest dealer. 41

Name_____

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Save $13.50
On a Full Size ELECTRIC BROODER

The Trumbull Brooderator provides fan circulated heat automatically controlled at any desired temperature for 200, 300 or even 500 chicks. Price $17.50 at your dealer's or postpaid from factory. You build the hover in an hour from materials costing $1.50 or less. Complete instructions for making in every package,—you will then have a full-size Electric Brooder that will perform equal to the better fan type Brooders selling at $32.00 or more. Write us for details.

TRUMBULL ALL-WEATHER BROODER

Famous for better brooding at lower cost. Let us help you to better results. Write today for free information.

The
TRUMBULL ELECTRIC MFG. CO.
1012 Woodford Ave. Plainville, Conn.

A GENERAL ELECTRIC ORGANIZATION

the toughest guys on the air. Whenever someone was needed to play the part of a crook or murderer on a crime program, Alan got the job. But Alan always had another ambition—he wanted to make people laugh instead of shiver.

Since he has joined the Stoopnagle program his dream has been fulfilled. In the fifteen-minute warmup before the quiz program he has developed a feature where anything and everything happens, from Alan jumping off the stage to kiss a strange woman to coming on the stage with a necktie three feet long.

Alan, who used to be a wrestler, still retains some athletic agility and makes his entrance by hurdling the row of contestants' chairs that line one side of the stage. Stoopnagle crawls in on his hands and knees.

During the pre-broadcast session the two comedians in the studio vie for laughs of the studio audience. The Colonel gives a few "daffynitions" such as: a clock is something which if you haven't got one of, a mouse can't run up it, while Alan leans heavily on gags: "I have a baby called Weatherstrip. Why? Because he'll keep me out of the draft."

• • •

Boyhood Promise Is Kept by Singer

A BERRY, Ky., nine-year-old showed such skill as an organist that Mrs. Maggie Fisher, organist for the town church, offered to give him lessons. She asked only one payment, that he would play at the church when she couldn't appear. The kid promised, and today grown-up to be Harvey Harding, NBC baritone, featured with Irving Miller's orchestra, he still keeps the promise.

Each July when his one-time teacher takes her vacation Harding flies to Berry, no matter how far from the town he may be—and since he has gained fame as a singer and pianist he is frequently far from Berry. Arrived in Berry, he plays the organ for the church.

Harding began playing at the age of four, when his father, who played the family organ each morning before doing his farm chores, went to work and forgot to lock the instrument. Harvey at once decided to see what made the instrument tick. His mother, hearing chords roll from the organ in most musicianly manner, looked in to inquire why her husband hadn't left to work on the farm. After that, the organ was never closed to the youngster.

The Moylan Sisters

Clogged Well Screen

Soon after installing our electric pump it began to labor and made a pounding noise. It required five minutes to fill the 18 gallon tank. Then it began to pound harder, and soon required 15 minutes to fill the tank. I called in our local well man, and he told me the screen was almost completely cemented over. He advised pulling the pipe. We did, and found only 4 or 5 small spots about the size of a dime that were not filled with hard substances. We put on a different type of screen—one with small steel slits instead of the open screen type. We were amazed at the change after putting in this new screen. The pump now operates almost without noise, and fills the tank in 1½ minutes at 45 pounds shut-off pressure. The old screen had been in the well four years.

A. E. HOLDEN

A million dollars worth of plate glass is required to protect the exhibits in the Field Museum, Chicago.

Hatch .. Brood .. Feed
—at Less Cost!!

Easy to operate BROWER Electric Hatchers. All types poultry eggs, 65 to 3300 capacities. Sold on 30 days trial.

Brood ELECTRICALLY

Brower's Watt-Saver and High Line Fan Type Brooders; ideal for all farms —9 models.

Mix Your Own Feed

Brower's 250-lb. "Mix-Rite"—price only $59.50—thoroughly mixes in 10 minutes. 24 models, up to 4000 lbs. Easy Terms.

BROWER MFG. CO.
Box 5820, Quincy, Ill.

GET CATALOGS—Write for special BROWER Feed Mixer, Incubator Catalogs; also 100-page Catalog on World's Largest Line Poultry Supplies.

THE NEW
VIKING ELECTRIC
HAMMER MILL

Grinds your own feed fresh every day while you do other work—is fully automatic—will not plug. Test this mill on your farm for 30 days, then let it pay for itself in small monthly payments. Send post card for complete details.

Viking Mfg. Co., Dept. E, Jackson, Michigan

ELECTRICITY HELPED ME EARN THIS MONEY

Fred Fortsche (Age 14) Makes $4 per Week Grinding Tools

"ALMOST every day someone comes to me with an ax to grind or some farm implement to be sharpened. Why? Well, because I have rigged up an emery wheel in the back of the barn powered by an old electric fan motor.

"The motor cost me a quarter in a junk shop. The emery wheel cost me a dollar in the same place. I had to repair both which cost me another dollar. The belt from motor to wheel cost me fifty cents. Total cost to start out in a sideline business that averages four dollars extra per week for me was two dollars and seventy-five cents.

"The only advertising I've done is by word of mouth telling my friends that I was looking for things to sharpen. They've told their friends and thus I have a paying sideline. Cost of electric consumption to run the wheel averages about $1.00 per month. My time spent at this work runs to about twenty working hours per month. My big season lies just ahead, sharpening ice skates etc. A lot of people ask me if I do grinding and polishing. This month I'm adding those two services to my spare time occupation. From the amount of polishing and grinding I've turned down I can safely figure that I will average twice as much profit per week than I am now making at a cost of only about two dollars per month for electricity."

FRED FORTSCHE.
Lincoln Park, N. J.

Fever Therapy Used on Turkeys

Electrically produced fever has proved effective in preliminary studies of the U. S. Bureau of Animal Industry in treating turkeys for a disease of the digestive tract and liver known as trichomoniasis, which is usually fatal. Infected birds were confined in a small chamber heated with electric light bulbs to a temperature that raised the body temperature of the birds to about two to four degrees above normal. After three to six treatments on alternate days, 20 out of 24 turkeys recovered.

Farmers Like Electric Shaving

Some time ago ELECTRICITY ON THE FARM made a survey among 893 farm families to find out how many electric shaver users there were and how users like them and why. The men folk in 30% of these families had tried electric shavers, of which 93% liked them and 7% had quit them. Among the reasons for liking them 66% said "saves time", 40% said "better shave", 33% said "safer" and 21% said "saves money."

The Editor, who has recently become an electric shaver user after listening to the Advertising Manager bubble over about his whisker clipper for a long time, would welcome first hand comments from readers who have had experience in removing real farm-grown whiskers electrically.

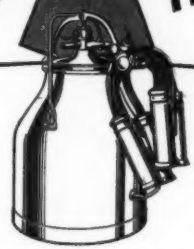
Keep Glass Clean

The ultra violet light transmitting properties of glass and of glass substitute materials in poultry house construction are of no use if the surface is dusty or dirty. Ultra violet light waves are weak in penetrating effect and cannot push through the dust and fluff so prevalent on poultry house windows. The only way to give the birds the benefit of the Vitamin D generative properties of ultra violet light is to keep the windows clean inside and out. Another job often neglected is the cleaning of the lamp bulbs. Dirty bulbs mean wasted light money and less benefit to the birds.

DE LAVAL MAGNETIC SPEEDWAY MILKER

BEST FOR THE COW

BEST FOR THE USER



Best, fastest, cleanest milking.

Stimulating, rhythmic action.

Always same uniform, regular speed and action.

Helps reach highest production.

Helps keep teats and udder in best condition.

Protects cow from improper milking.

The De Laval Magnetic Speedway Milker is the one method of milking with which both cow and user are completely satisfied. Its uniform, regular milking action pleases the cow. Its fast, clean milking, easy handling, time and labor saving features and dependability please and profit the user. Arrange with your local De Laval Dealer for a free trial—no obligation.

Milks your cows best, fastest and cleanest.

Helps get greatest production.

Saves time and labor.

Produces clean milk.

Ends drudgery of hand milking.

Enables keeping more cows without extra help.

De Laval Separators

World's best and most complete line of separators—World's Standard Series unmatched in performance, quality, convenience: De Laval Junior Series offers De Laval quality and performance in smaller capacity machines, can now be furnished with electric motor drives.

The De Laval Separator Co.,
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New York, 165 Broadway
Chicago, 427 Randolph St.
San Francisco, 61 Beale St.

Please send me, without obligation, full information on
Milker ☐ Separator ☐
check which

Name .....
Town .....
State.....RFD....No. Cows...

Wire Sizes

Question: *I intend installing two electric brooders about* 50 *feet from my cellar; also* 4 150-*watt electric water warmers to keep water from freezing about* 150 *feet from cellar and don't want to go to too much expense. I would like to run separate wires for each as I have the wire.*

How many water warmers, brooders and lights will this ordinary wire carry? F. C. L., Conn.

Answer: If the wire you have is No. 14, it would be large enough to operate one electric brooder at a distance of 50 feet with a reasonable drop in voltage. The same size wire would take care of two 150-watt water heaters at a distance of 150 feet. If you do not know the size of the wire you have, I would recommend that you take a sample to your power company and ask their advice.

Quarter H.P. A.C. Generator

Question: *Where could I get a* 110-*volt generator that would supply enough current to drive a ¼ HP single phase motor and about how much would such a unit cost?* H. C., Ind.

Answer: The following companies should be able to supply you with ½ kilowatt generators: Homelite Corp., Port Chester, N. Y.; Fairbanks Morse Co., 906 S. Wabash Ave., Chicago, Ill.; Chicago Electric Co. (Rebuilt generators), 1336 W. 22nd St., Chicago, Ill., and U. S. Motors Corp., Oshkosh, Wis.

Alternating current generators are expensive, because they need separate direct current exciter generators. It would probably be cheaper for you to throw away your ¼ hp alternating current motor and use a direct current motor with direct current generator.

Fur Farm Fence Alarm

Question: *Is it possible to wire a fur farm fence that is buried in the ground to give an alarm when touched? If this is not possible, please tell me of some type of alarm for this kind of yard. I do not want a shock fence.*

H. W., New York.

Answer: If you wish to have an alarm which will be set off when animals attempt to dig out, I am afraid I cannot help you. Should your problem be one of preventing thievery, then the closed circuit burglar alarm, commonly used around poultry yards, would be satisfactory. These are so arranged that if doors or windows or gates are opened, wires cut or pulled, the circuit will be broken and a bell will ring. Such alarm systems are made by the Lyon Rural Electric Co., San Diego, Calif., and the Struthers Dunn Co., at Philadelphia, Pa.

Lamp for Poultry Water Warmer

Question: *The kerosene lamp in my chicken water heater is rusted. Would it be possible to heat the water with an electric bulb? If so what wattage would prove most satisfactory?*

F. R. M., New York.

Answer: I would suggest that you place your lamp socket far enough away from the bottom of your fountain to permit inserting a 100-watt bulb. The size lamp you will need will depend upon outside temperatures. Start with a 40-watt lamp. If this is not enough heat, you can easily insert a 60. It will be well to have the bottom of your fountain black, but if there is enough accumulated soot to act as an insulator, it should be scraped off.

Size of Pump Motor

Question: *Would it be possible to pull the following described pump with a ¼ hp motor and what size pulleys would be required on the motor and pump? It is a back geared horizontal force pump:* 14 *teeth on drive gears,* 70 *teeth on driven gears,* 5 *inch double acting stroke,* 3 *inch diameter cylinder,* 18 *ft. to water level in well.*

J. P. H., Indiana.

Answer: The size motor you will need will depend on whether you are going to raise the water any above the pump. If not, you can probably get by with a ¼ hp. motor, using a two-inch pulley on the motor and a thirty-inch pulley on the pump. This will give you about twenty-four strokes per minute, producing 450 gallons per hour.

If you use a three-inch pulley on the motor and a twenty-inch pulley on the pump, you will get about 900 gallons per hour and should use a ½ hp. motor.

Should you wish to pump water into a pressure tank at forty pounds pressure, or raise it into an

BUYERS' INFORMATION SERVICE

As a reader of this magazine you are entitled to our buyers' information service free of cost. When looking for information about equipment or material that you plan to buy, first read carefully the advertisements in this issue. They are your best guide. Then, if you do not find what you want, just use the coupon below to tell us what you need and we will see that you get the information you want.

USE THIS READER SERVICE COUPON

ELECTRICITY ON THE FARM
Readers' Service Dept., 24 W. 40th St., New York

Without cost to me, please have manufacturers send complete information on the following Electrically Operated Equipment which I am thinking of buying:

.....

.....

My name is .....

Address .....

I get electricity from .....

Check here ☐ if dealer. 1-41

elevated tank, 100 feet high, you should double the horse power of the motor for the pulley sizes given.

Homemade Electric Fly Screens

Question: *I have been making fly electrocutors as a hobby and spare time study, and would like to know where I could buy a transformer that puts out about 2000 volts? How many mills would it take to make this voltage most effective and yet safe?* G. A., Wis.

Answer: We try to discourage anyone but competent electrical designers from making such potentially dangerous equipment as electric fence controllers, electric fly screens and the like.

If this is just a hobby with you and you realize the danger, we are glad to tell you what we know about these screens. So far as we know, none of them is approved by the underwriters, so there are no specific requirements for voltage and current. There are some mosquito electrocutors on the market now which sell for less than $1 and operate on 115 volt current through a one ampere fuse. I consider them very unsafe. The better fly screens operate on about 2000 volts. I cannot tell you the current capacity, but the allowable current on continuous type electric fences which are similar devices, is 8-root-mean-square milliamperes.

The Jefferson Electric Company, Bellwood, Illinois, make all types of small transformers.

What Type of Pump?

A Correction. In answering the above question in the November issue the statement was made "A new type shallow-well jet pump—is made so that if the water table in your well should ever drop below suction lift, the jet can be taken out of the pump and put down in the well—." We should have stated that a special deep well jet could be substituted down in the well. The jet nozzle and fittings, and the pipe for connecting it to the pump would have to be purchased extra.

Manure Pit Pump

Question: *Re: August issue, page 8. What size and type manure pump did Mr. Ott and Mr. Oblander use?* M. E. D., New Jersey.

Answer: The manure pump on the Oblander farm in Oklahoma is an ordinary open-runner type, 2 inch, centrifugal pump. This is not the type of pump I would recommend, however, as it is too difficult to take apart for cleaning.

There are many manure pits in the state of Oregon, and most of these farmers use Luna pumps imported from Switzerland. Recently a concern in Tillamook, Oregon, started making a pump similar to this, and both the Tillamook pump and the Luna pump are sold in this country by R. M. Wade & Co., Portland, Oregon. This type pump is designed especially for handling manure, and is easily opened for cleaning when necessary.

New Publications

"Household Equipment." Second edition of book by Louise J. Peet, Iowa State College and Lenore E. Sater, U.S.D.A. Chapters on kitchens, fuels, electricity, gas, electric, coal, gasoline and kerosene ranges, small electrical and non-electrical equipment, refrigeration, the laundry, cleaning equipment, home lighting, plumbing, heating and ventilating. An illus. text book, 392 pp. John Wiley & Sons, New York. $3.

"Experiments With Electric Water Heaters For Dairy Farms." Purdue Univ., Exp. Sta. Bul. 447, Lafayette, Ind. Comparisons of 3 to 15 gallon, non-pressure type electric heaters on farms. Time required, effect of insulation, relative efficiencies. 12 pp.

"Bacteriological Studies on the Cleaning of Milking Machines." Cleaning procedure and the value of the different operations in reducing bacteria. Purdue Ag. Exp. Sta. Bul. 449, Lafayette, Ind. 7 pp.

"A Study of Electric Roasters." Technical data on roaster operation with results of cooking and baking tests in 6 different roasters. Bul. 325, Va. Ag. Exp. Sta., Blacksburg, Va. 30 pp.

"Electricity." No. 1, Modern World at Work Series, National Youth Administration. Simple and interesting history of the beginnings and development of the knowledge and use of electricity. 50 pp., illus. 15c from Supt. of Documents, Washington, D. C.

YES this is how it got started: A hen laid an orange and the little chick said: "Oh, look at the orange marmalade."

Elect-O-Stat costs you up to $15 less than others neither larger nor better. Gleaming white enameled interior Masonite insulated—silvered reflector—finest electric fan for chick comfort—rubberized curtain—strong steel canopy. Runs with cool outer surface, sign of super economy. Underwriters and R. E. A. approved. Perfected to raise grand chicks—give long service. Area 2704", $26.90. Area 3600", $29.90. Expander Model—grows with the chicks—Area 3500", $28.90.— At your dealer or write.

THE MAKOMB LINE, Macomb, Ill.

World's Largest Manufacturer of Brooders

GET THE FACTS ABOUT
"FLAIL-ACTION"
AND ITS AMAZING CAPACITY

HAMMERS BEAT DOWN—GRINDS FASTER—TURNS SLOWER—COSTS LESS TO RUN—Don't miss out on all the benefits of Flail-Action—be sure to see this remarkable mill that grinds all grains, roughage—faster, easier, at lower cost.

STOVER FLAIL-ACTION FEED MASTER

—wastes no power. Gives 2-way grinding —also acts as grain elevator. Full, free-swing hammers prevent damage should stray metal get in mill. Ask your Oliver Dealer for demonstration.

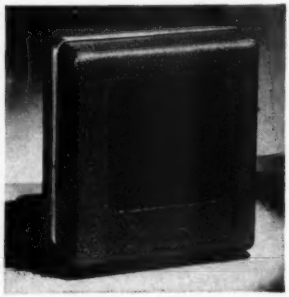
NEW The Flail-Action Jr. No. 65—a smaller, less expensive machine for the light tractor or smaller user. Prices start at $99 F.O.B. Factory. Write for details.

STOVER MFG. & ENGINE CO. 233 Eth St. Freeport, Ill.

Names and addresses of manufacturers of the articles described in this column will gladly be furnished upon request to What's New Department, ELECTRICITY ON THE FARM, *24 West 40th Street, New York, N. Y.*

Electric Fan-Type Heater

This 1500 watt heater has a 7" five blade fan designed to move 70 cu ft of air per minute. It is 13" x 11½" x 7" and weighs 16 lbs. The heating element is cast in an aluminum grid. Outside baked wrinkle finish, either white or brown. Electricity cut off by safety switch in case of upset or stoppage of air flow. Downward airflow warms floors. Fan may be run without heat in summer. Price $26.50. Also made in sizes and models up to 5000 watts.



"Roof Garden" Brooder

In order to make use of all the floor space in the brooder house, this brooder provides a full brooder-size roof garden for the chicks. With

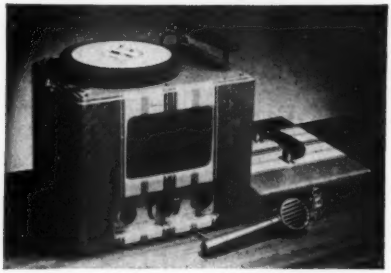
tested Chromolox ring heaters and reflectors, end ventilators and blue denim curtains, the new exterior design of this Presdwood brooder provides a 1¼ in. depth for litter on top, the litter acting as an insulator. Chicks range both under and over the brooder which has an area of 24 sq. ft. Approved by Underwriter's. Hinged top may be lifted for examination.

New S-4 Ultra Violet Poultry Unit

At last, here is a complete ultra-violet lamp for poultry, (or humans) ready for immediate delivery and use at a price of $18.90 fob factory. It uses the new S-4 lamp,—most efficient S-type producer of ultra violet. The unit uses 120 watts on 115 v, 60 cycle circuits. Lamps rated at 1000 hours life. Replacement lamps $8.50. Used as a substitute for or supplement to codliver oil. Shipping wt 14 lbs.

Recording Radio Phonograph

This little wizard box contains a standard five tube radio, an electric phonograph which will play standard records and a recording device which will make records of radio programs or of your own



program spoken into a microphone. Operates on a.c. current. Large and small models ranging in price from $39.95 f.o.b. factory. Blank records cost from 60 cents to $2.00 for six, according to size; and play from 2½ minutes to 5¼ minutes, varying with the size record purchased.

CLASSIFIED ADVERTISING

DAIRYMEN AND FARMERS—Your Cold Weather Watering worries are eliminated by **The Henderson Stock Water Heater!** Weekly cost of few cents guarantees constant water supply. FREE CIRCULAR—**Write today!** LYON ELECTRIC COMPANY, Dept. EF-2, Greensboro, N. C. or San Diego, California.

BEFORE BUYING CHICKS, get details famous Big Boy Chick Raising Plan. You get proper size brooder to use free, at no increased price. Thousands satisfied customers acclaim US-Approved Big Boy Chicks "America's Finest." Easy payment credit plan optional. Write ILLINOIS STATE HATCHERIES, 351 Jefferson, Springfield, Illinois.

BROODER LITERATURE. Tells all about the new Simplex Serkul-Heat poultry brooder. Combines correct heat distribution, proper ventilation and safety. Leading brooder stove and poultry equipment manufacturers for 28 years. SIMPLEX BROODER STOVE CO., 791 Grandville Ave., Grand Rapids, Mich.

DON'T BROOD CHICKS until you see LYON'S **Infra-Red Ray Brooder;** latest contribution to Poultry Science! **Guaranteed!** Also Water-Warmers, Temperature Alarms, Time Switches and Heating Assemblies. **FREE 52-page CATALOG!** LYON ELECTRIC COMPANY, Dept. EF., Greensboro, N. C. or San Diego, California.

THERMOSTAT, pilot lamp and cable for 20 sq. ft. hotbed, $4.55; 40 sq. ft. $6.05. Heats water troughs. Other sizes available! L. N. ROBERSON CO., 1540 E. 102nd St., Seattle, Washington.

GET YOUR FREE COPY NOW. Bussey 100-page book for Poultrymen. Low Factory Prices. Parts for electric brooders and batteries; heating assemblies; wire Fabrics; Poultry Department. Save money. BUSSEY PEN PRODUCTS CO., 5151 West 65th St., Chicago.

PICTURE TITLE CONTEST

$40 in cash prizes for the best titles to this cartoon. 7 Cash Prizes—1st prize, $20; 2nd prize, $5, and 5 consolation prizes of $3 each.

Your title may be a single descriptive sentence or the conversation which took place between the salesman and the man. How would you describe this amusing situation?

RULES—January Contest

7 cash prizes will be awarded for the best title for the cartoon on this page.

The first prize will be $20 cash! the second prize $5. In addition, 5 consolation prizes of $3 each will be awarded for the best titles furnished.

In case of a tie, each winning contestant will receive the full cash prize to which he or she is entitled.

Your title may be in the form of a single sentence or may tell what each of these men said. There is no limit on form, but your title must not contain more than 20 words.

All members of the farm family to whom this magazine was sent may enter, but each contestant may submit only one title.

Question "A" must be answered.

Entries must be sent to the Contest Editor, ELECTRICITY ON THE FARM, 6 No. Michigan Avenue, Chicago, Illinois, before Feb. 1.

The decision of the judges is final and all entries become the property of ELECTRICITY ON THE FARM. Winning names and entries will be announced in the March issue.

Send your entry on the coupon or make out a similar form on a plain sheet of paper or government postcard.

My suggestion for a title to the cartoon above is:

.....

.....

.....

(a) What electrical appliances or equipment have you bought during the past year? Please give brand names.

.....

.....

.....

.....

.....

My name is .....

R.F.D. Post Office County State

.....

I get electricity from .....

1-41

November Cartoon

NOVEMBER CONTEST WINNERS

FIRST PRIZE—$20.00 CASH

"If this here gadget is all I've heared,
I reckon now I'll shave my beard."
Mrs. Clinton Jones,
Myrtle Creek, Oregon

SECOND PRIZE—$5.00 CASH

"The New Year endows a special favor
And presents Father Time with a little 'shaver'."
Mrs. George E. Boweer,
RFD 1, Bremen, Indiana

FIVE CONSOLATION PRIZES—$3.00 Each

"Well, well, son, this invention puts a new face on the whole situation."
Mrs. Marjorie Truitt,
Snowden, N. C.

"I say there, Bud, I won't be a rival for old St. Nick if this dodad'll do the trick."
Lewis M. Taylor,
RFD 2, Russiaville, Ind.

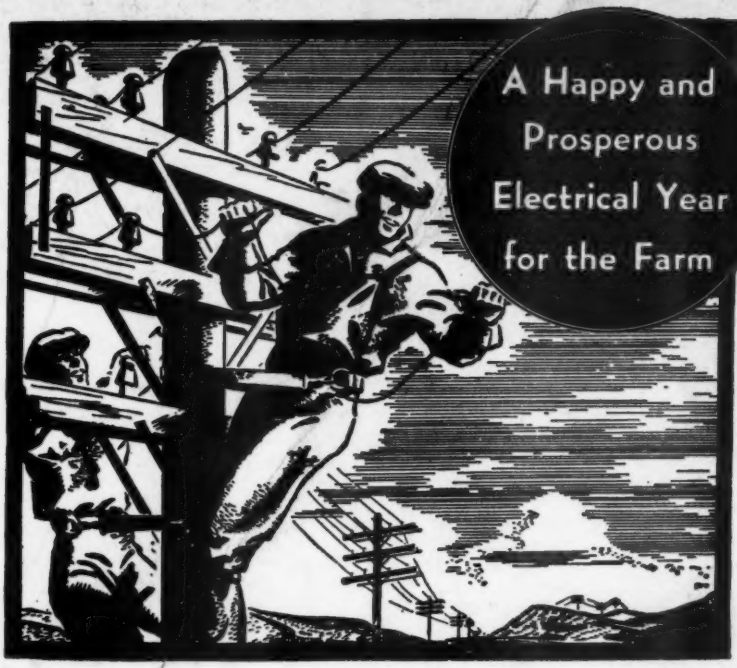
"A 'full-o'brush' man about to dispose of another long 'handled' mop."
Ray Wendelschafer,
RFD 1, Cleveland, Minn.

"The 'current' aid for a coming-out party."
J. M. Denson,
Rt. 1, Helena, Ala.

"Ah me! One of these throughout my youth and prime
Would have kept me from resembling old Father Time!"
Mrs. Earl Nightenhelser,
RFD 1, Boston 127, Cicero, Ind.

HONORABLE MENTION

The following names are deserving of honorable mention for the titles submitted:
Katie A. Parsley, RFD 1, Carmel, Ind.; Will Davis, RFD 3, Ash Grove, Mo.; R. A. Pedersen, RFD 2, Herman, Neb.



WE hope that your Christmas was a merry one and that the New Year of 1941 will be the happiest and most prosperous you've ever had.

To help make these wishes come true we are sending you this monthly magazine, ELECTRICITY ON THE FARM, from which you may gain many good ideas for making farm operation and household management easier—for making life richer. We hope you'll like ELECTRICITY ON THE FARM.

ELECTRICITY *on the* FARM

24 W. 40th Street, New York

6 North Michigan Avenue, Chicago

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